

REMARKS

Claims 1-2, 9-10, and 15-36 will be pending upon entry of the present amendment. Claims 1-2 and 9-10 are amended. Claims 3-8 and 11-14 are canceled. Claims 15-36 are new. No new matter is being presented.

One embodiment of the invention is directed to a method of processing video data to detect field characteristics of the data, and in particular, to detect whether a field is progressive or interlaced. The method includes calculating first and second difference values as differences between pixels of a current field and pixels of a previous field and differences between the pixels of the current field and pixels of a subsequent field, respectively. In contrast to prior art methods, the method determines whether the current field is an interlaced field or a progressive field with respect to the subsequent field based on the first and second difference values.

Claims 1-2 and 9-10 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,452,011 to Martin et al. ("Martin").

Martin does not anticipate the invention recited in claim 1, as amended. Claim 1 recites a method that includes calculating first and second difference values as differences between pixels of a first field and pixels of a previous field (second field) and differences between the pixels of the current field and pixels of a subsequent field (third field), respectively. In addition, the method determines whether the first field is an interlaced field or a progressive field with respect to the third field based on the first and second difference values. Martin does not disclose those features of claim 1.

Martin does not calculate a first difference value of differences between a first field and a previous, second field and a second difference value of differences between the first field and a subsequent, third field, as recited in claim 1. Instead, Martin calculates difference values between a current field j and two previous fields $j+1$, $j+2$. Martin does not suggest calculating the difference value between current field j and a subsequent field $j-1$.

Martin does not disclose determining whether a first field is progressive or interlaced based on first and second difference values. As discussed in column 3, lines 8-52 and shown in Figure, Martin determines whether successive fields j and $j+1$ are interlaced based on the difference values between those two successive fields only. The Examiner points to column

2 of Martin as also showing the calculating of the difference value between fields j and $j+2$, but the difference value between fields j and $j+2$ is not used to determine whether a field is progressive or interlaced. Instead, the difference value between fields j and $j+2$ is used only after determining whether fields j and $j+1$ are interlaced, in order to determine whether fields are repeated (Fig. 3 and column 4).

Accordingly, amended claim 1 is not anticipated by Martin.

Claims 2 and 22-30 depend on claim 1, and thus, are also not anticipated by Martin. In addition, claims 22-30 recite many other features that are not disclosed by Martin. In particular, claim 22 recites calculating a ratio between the first and second difference values, comparing the ratio with a threshold, and determining whether the first field is interlaced progressive based on the comparing step (see steps 403-404 of Fig. 5 and accompanying text for support). Martin does not calculate a ratio between difference values between a first field and previous and subsequent fields. Instead, Martin calculates a line-by-line difference value $Fr(k)$ between corresponding lines of fields j and $j+1$ and an accumulated difference value $Fd(k)$ between the fields j and $j+1$ and calculates a ratio R of those difference values. Such a ratio R involves difference values with respect to only the two fields j and $j+1$, and thus, does not disclose the ratio recited in claim 22.

Martin does not disclose any of the features of new claim 23. Claim 23 recites that calculating the first difference value comprises calculating pixel differences between the pixel of the first field and two pixels of the second field; selecting a smaller pixel difference between the pixel differences; and accumulating the smaller pixel difference (see p. 6, line 16 through p. 7, line 4 for support). Martin does not compare 1 pixel of one fields with two pixels of another field, does not select a smaller pixel difference, and does not accumulate smaller pixel differences. Instead, Martin simply compares one pixel of one field (field j) with one corresponding pixel of another field (field $j+1$ or field $j+2$).

Martin does not disclose any of the features of new claim 25. Claim 25 recites calculating the number of moving pixels between said second and third fields, wherein the determining step includes determining that said first field is an interlaced field if said number is lower than a moving pixel threshold, and determining that said first and third fields are

progressive if said number is not lower than the moving pixel threshold. Martin does not calculate moving pixels or make the progressive/interlaced determination based on moving pixels.

Martin does not disclose the features of claims 26-28. Claims 26-28 discuss various steps involving verifying and responding to scene changes. Martin does not mention any scene changes or any steps for responding to scene changes.

For the foregoing reasons, claims 1-2 and 22-30 are not anticipated by Martin.

Although the language of claims 9-10 and 15-21 is not identical to that of claims 1-2 and 22-30, the allowability of claims 9-10 and 15-21 will be apparent in view of the above discussion.

Although the language of new independent claim 31 is not identical to that of claim 25, the allowability of claim 31 will be apparent in view of the above discussion of claim 25. Claims 32-36 depend on claim 31, and thus, are also allowable. In addition, each of claims 32-36 recites additional features that are not anticipated by Martin.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

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